

## SURFACE CONTOUR RADAR (SCR) CONTRIBUTIONS TO FASINEX

by

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The SCR was asked to participate in the Frontal Air-Sea Interaction Experiment (FASINEX) to provide directional wave spectra. The NASA P-3 carrying the SCR, the Radar Ocean Wave Spectrometer, and the Airborne Oceanographic Lidar was one of five aircrafts and two ocean research ships participating in this coordinated study of the air-sea interaction in the vicinity of a sea surface temperature front near  $28^{\circ}$  N,  $70^{\circ}$  W. Analysis of data from the February 1986 experiment is still ongoing, but results already submitted for publication strengthen the hypothesis that off-nadir radar backscatter is closely correlated to wind stress. The SCR provided valuable information on the directional wave spectrum and its spatial variation. The right side of the figure shows one of the directional wave spectra measured by the SCR on February 18. The wave pattern was complex, and the synoptic weather maps on the left of the figure indicate the sources for the trimodal system. In addition to the locally generated waves, there was westward propagating swell generated by the circulation around the high pressure dominating the region on the previous day, and southward propagating swell generated 3 days earlier by a low pressure region off Nova Scotia. The SCR data indicated that the wave height decreased north of the front which was consistent with the observed decrease in the neutral drag

coefficient. The SCR is presently being upgraded so it can produce higher quality directional wave spectra and provide them in real-time.

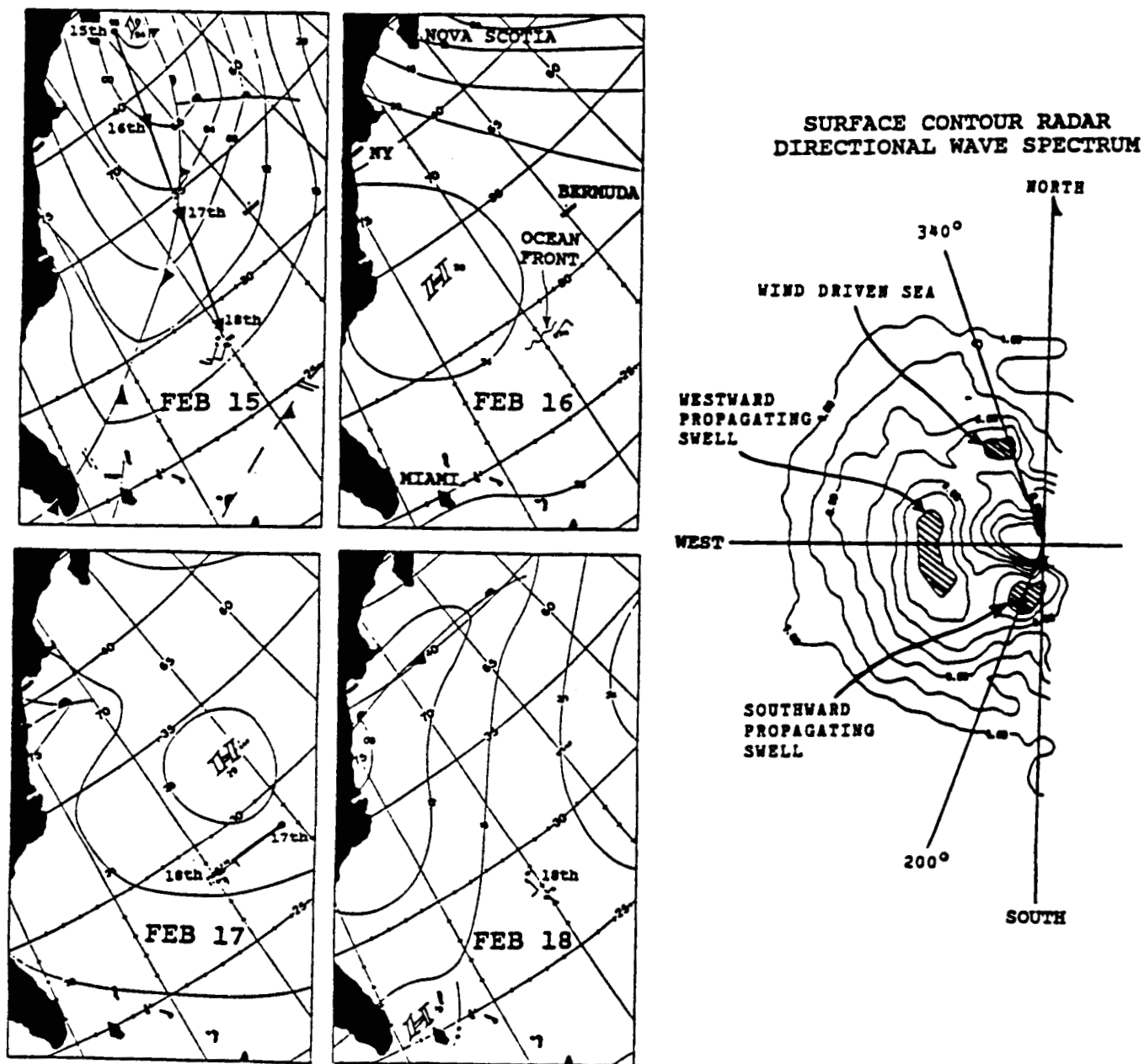


Figure 1. Frontal Air-Sea Interaction Experiment (FASINEX)  
1986